

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (original): A divided one-dimensional solid-state imaging device comprising:

photodiode arrays having photodiodes for individual pixels arrayed in a line;

output transistors for outputting electric charges from the respective photodiodes in said photodiode arrays; and transfer paths for transferring the electric charges supplied from said output transistors to output terminals,

wherein each of said photodiode arrays is divided into a plurality of sections differing in the number of pixels in a photodiode arraying direction, the respective sections connecting to the corresponding ones of said transfer paths and said output terminals; and

pixel rows in the respective sections are read out in parallel at the same time from said output terminals corresponding to the respective sections.
2. (original): The divided one-dimensional solid-state imaging device according to claim 1, wherein:

said one-dimensional solid-state imaging device is based on a signal transfer system;

said output transistors constitute a transfer gate; and

said transfer paths are analog shift registers.
3. (original): The divided one-dimensional solid-state imaging device according to claim 1, wherein said one-dimensional solid-state imaging device is a line CCD sensor.

4. (original): The divided one-dimensional solid-state imaging device according to claim 1, wherein:

said one-dimensional solid-state imaging device is based on an addressing system;
said output transistors are switching transistors; and
said transfer paths are digital shift registers that select the switching transistors for the photodiodes from which the electric charges are outputted.

5. (original): The divided one-dimensional solid-state imaging device according to claim 1, wherein:

said one-dimensional solid-state imaging device is an MOS type sensor;
said output transistors are MOS transistors; and
said transfer paths are digital shift registers that select the MOS transistors for the photodiodes from which the electric charges are outputted.

6. (original): A method of controlling a divided one-dimensional solid-state imaging device comprising: photodiode arrays having photodiodes for individual pixels arrayed in a line;
output transistors for outputting electric charges from the respective photodiodes in said photodiode arrays; and

transfer paths for transferring the electric charges supplied from said output transistors to output terminals,

wherein each of said photodiode arrays is divided into a plurality of sections differing in the number of pixels in a photodiode arraying direction, the respective sections connecting to the corresponding ones of said transfer paths and said output terminals; and

pixel rows in the respective sections are read out in parallel at the same time from said output terminals corresponding to the respective sections, said method comprising the steps of:

concentrating the sections comprised of a small number of pixels at one part in an arraying direction of said photodiode arrays; and

using only the sections with a small number of pixels concentrated at one part in the arraying direction for reading of an image projected in a narrow area.

7. (original): An image reading apparatus wherein:

a divided one-dimensional solid-state imaging device is used as an image reading section that photoelectrically reads an image recorded on a photographic film,

said divided one-dimensional solid-state imaging device comprising:

photodiode arrays having photodiodes for individual pixels arrayed in a line;

output transistors for outputting electric charges from the respective photodiodes in said photodiode arrays; and

transfer paths for transferring the electric charges supplied from said output transistors to output terminals,

wherein each of said photodiode arrays is divided into a plurality of sections differing in the number of pixels in a photodiode arraying direction, the respective sections connecting to the corresponding ones of said transfer paths and said output terminals; and

pixel rows in the respective sections are read out in parallel at the same time from said output terminals corresponding to the respective sections.

8. (currently amended): A method of controlling a one-dimensional solid-state imaging device which comprises photodiode arrays having photodiodes for reading individual pixels

arrayed in a line, a transfer gate for outputting electric charges from the respective photodiodes in said photodiode array, and transfer paths for transferring the electric charges supplied from said transfer gate to output terminals, said method comprising ~~the steps of:~~

using only an intermediate region of said photodiode arrays for imaging without using regions at one end side and the other end side of said photodiode arrays; ~~and~~

reading out pixels first from the region at the one end side and next from the intermediate region, and stopping reading out pixels in the region at the other end side at a point where pixels in the same number as or smaller number than pixels in the region at the one end side of said ~~photodiodes~~ photodiode arrays are remained, thereby eliminating need for reading out all pixels in said photodiode arrays;

outputting electric charges from respective photodiodes via switching transistors; and
transferring the electric charges from the switching transistors along transfer paths
comprising digital shift registers which select the switching transistors for the photodiodes from
which the electric charges are outputted, and

wherein said one-dimensional solid-state imaging device is based on an addressing
system.

9. (currently amended): The method of controlling the one-dimensional solid-state imaging device according to claim 8, wherein:

said one-dimensional solid-state imaging device is ~~based on a signal transfer system~~ an
MOS type sensor;

said output transistors are MOS transistors; and

said transfer paths are ~~analog-digital~~ shift registers that select the MOS transistors for the photodiodes from which the electric charges are outputted.

10. (currently amended): The method of controlling the one-dimensional solid-state imaging device according to claim 8 or 9, wherein: said one-dimensional solid-state imaging device is a line ~~CDD-CCD~~ sensor.

11 (currently amended): A method of reading an image exposed on a photographic film, comprising ~~the step of:~~

reading an image by a one-dimensional solid-state imaging device controlled by a method of controlling said one-dimensional solid-state imaging device which comprises photodiode arrays having photodiodes for reading individual pixels arrayed in a line, a transfer gate for outputting electric charges from the respective photodiodes in said photodiode array, and transfer paths for transferring the electric charges supplied from said transfer gate to output terminals, said method comprising ~~the steps of:~~

using only an intermediate region of said photodiode arrays for imaging without using regions at one end side and the other end side of said photodiode arrays; and

reading out pixels first from the region at the one end side and next from the intermediate region, and

stopping reading out pixels in the region at the other end side at a point where pixels in the same number as or smaller number than pixels in the region at the one end side of said ~~photodiodes~~ photodiode arrays are remained, thereby eliminating need for reading out all pixels in said photodiode arrays;

wherein the transfer gate comprise switching transistors; and

said transfer paths are digital shift registers which select the switching transistors for the photodiodes from which the electric charges are outputted, and
wherein said one-dimensional solid-state imaging device is based on an addressing system.

12. (currently amended): The method of reading the image according to claim 11,
wherein:

said one-dimensional solid-state imaging device is ~~based on a signal transfer system~~ an MOS type sensor;

said output transistors are MOS transistors; and

said transfer paths are ~~analog-digital~~ shift registers that select the MOS transistors for the photodiodes from which the electric charges are outputted.

13. (currently amended): The method of reading the image according to claim 11 or 12,
wherein:

said one-dimensional solid-state imaging device is a line ~~CDD~~ CCD sensor.